

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Taxoster	FOR FURTHER ACTION	See Form PCT/IPEA/416
International application No. PCT/ES2004/000313	International filing date (day/month/year) 02.07.2004	Priority date (day/month/year) 04.07.2003
International Patent Classification (IPC) or national classification and IPC C07J63/00, 53/00, 75/00		
Applicant UNIVERSIDADE DE SANTIAGO DE COMPOSTELA		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of _____ sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising: a. <input type="checkbox"/> (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows: <input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions). <input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box. b. <input type="checkbox"/> (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).
4. This report contains indications relating to the following items: <input checked="" type="checkbox"/> Box No. I Basis of the report <input type="checkbox"/> Box No. II Priority <input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability <input type="checkbox"/> Box No. IV Lack of unity of invention <input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement <input type="checkbox"/> Box No. VI Certain documents cited <input type="checkbox"/> Box No. VII Certain defects in the international application <input type="checkbox"/> Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
Name and mailing address of the IPEA/ES	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/ES2004/000313

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
 - ☐ This report is based on translations from the original language into the following language _____ which is the language of a translation furnished for the purposes of:
 - ☐ international search (Rule 12.3 and 23.1(b))
 - ☐ publication of the international application (Rule 12.4)
 - ☐ international preliminary examination (Rule 55.2 and/or 55.3)
2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:
 - ☒ the international application as originally filed/furnished
 - ☒ the description:
 - pages 1-20 _____ as originally filed/furnished
 - pages* _____ received by this Authority on _____
 - pages* _____ received by this Authority on _____
 - ☒ the claims:
 - nos. 21-28 _____ as originally filed/furnished
 - nos.* _____ as amended (together with any statement) under Article 19
 - nos.* _____ received by this Authority on _____
 - nos.* _____ received by this Authority on _____
 - ☐ the drawings:
 - sheets _____ as originally filed/furnished
 - sheets* _____ received by this Authority on _____
 - sheets* _____ received by this Authority on _____
 - ☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.
3. ☐ The amendments have resulted in the cancellation of:
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____
4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
 - ☐ the description, pages _____
 - ☐ the claims, nos. _____
 - ☐ the drawings, sheets/figs _____
 - ☐ the sequence listing (*specify*): _____
 - ☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

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Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. Statement**

Novelty (N)	Claims <u>1-10</u>	YES
	Claims _____	NO
Inventive step (IS)	Claims <u>1-10</u>	YES
	Claims _____	NO
Industrial applicability (IA)	Claims <u>1-10</u>	YES
	Claims _____	NO

2. Citations and explanations (Rule 70.7)

Documents taken into consideration:

- D1: Mol. Pharm., 2000, vol. 57, pages 568-575 (2000)
D2: J. Med. Chem., 2000, vol. 43, no. 12, pages 2419-2429 (2000)
D3: Org. Lett., 2002, vol. 4, no. 10, pages 1651-1654 (2002)
D4: J. Am. Chem. Soc., 2000, vol. 122, no 22, pages 5343-5353 (2000)

The present invention relates (independent claims 1 and 2) to novel compounds having formula I (claim 1) and formula II (claim 2) and referred to as taxosteroids, which have a polycyclic structure resulting from the combination of the carbocyclic skeletons of steroids (rings C and D in formulae 1 and 2) and taxanes (rings A and B in formulae 1 and 2). The compounds having formulae I and II are the two possible types of analogues, depending on the relative orientation of the two components (steroid and taxane).

The invention further relates to a method for preparing the compounds of formula I (claim 3) and formula II

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Box No. V	Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
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(claim 4), as well as a pharmaceutical composition containing compounds I and II as the active principle (claim 5), and the use of said compounds as therapeutic agents having a variety of activities (claims 6 to 10).

None of cited documents D1 to D4 or any relevant combination thereof describes compounds having the hybrid taxosteroid structure of formulae I and II and having equivalent features and technical effects to those of the present application, as described in independent claims 1 and 2, or the method for synthesising said compounds, as described in claims 3 and 4, or the pharmacological activity thereof, as set forth in claims 5 to 10. It follows that said cited documents merely reflect the prior art.

The invention as disclosed in claims 1 to 10 of the present application is novel, considered to involve an inventive step and industrially applicable (PCT Article 33(2), (3) and (4)).